



2021 TURA Reporting Changes



Updated Reporting Year (2021) Guidance

- The TURA Chemical List and Reporting Appendices Chemical List (updated April and May 2022).
- <https://www.mass.gov/lists/massdep-toxics-use-reduction-policies-guidance>.

Updated TURA Chemical List (April 2022)

- 172 TRI (Toxics Release Inventory) PFAS chemicals added to TRI for reporting year 2020 and added to TURA effective this reporting year 2021.
- New TURA Certain PFAS NOL category (DEP category number 1300), which will be reportable, effective next reporting year 2022, for reports due July 1, 2023.

Updated TURA Reporting Appendices (May 2022)

- Includes:
 - Guidance for the new TURA Certain PFAS NOL category begins on **page 80**.
 - Updated Rules for Reporting **Specifically Listed Chemicals vs. Chemical Categories** begins on **page 101**.

TRI PFAS Chemicals Added to TURA

Although the 172 TRI PFAS chemicals have the 100 lb. reporting threshold, they are not classified as PBTs, and **the *de minimis* exemption** applies.

De minimis for TRI PFAS Chemical Additions

- According to TRI, in determining the amount or quantity of a toxic substance manufactured, processed, or otherwise used at a facility, the toxics user shall not consider the amount of the toxic substance if it is present in a mixture in concentrations equal to or below the *de minimis* concentration for that toxic substance.
- TRI PFAS chemical additions have a *de minimis* level of **1%**.
- Except for Perfluorooctanic acid (PFOA)/CAS 335671 – *de minimis* level of **0.1%**.

Rules for Reporting Specifically Listed Chemicals vs. Chemical Categories

- Rules for reporting specifically listed chemicals vs. chemical categories begins on page 101 of the updated TURA Reporting Appendices.
- Added TURA NOL category to the reporting matrix, and expanded table to include more reporting scenarios.

Rules for Reporting Specifically Listed Chemicals vs. Chemical Categories Matrix (Lines 1-6)

RowNo.	EPCRA or TURA Specific Chemical	EPCRA or TURA Category	CERCLA Specific Chemical	CERCLA Category	TURA NOL Category	Report as:
1	Yes	Yes				EPCRA or TURA Specific Chemical
2	Yes			Yes		EPCRA or TURA Specific Chemical
3	Yes				Yes	EPCRA or TURA Specific Chemical
4		Yes				EPCRA or TURA Category
5		Yes		Yes		EPCRA or TURA Category
6		Yes	Yes			EPCRA or TURA Category

Rules for Reporting Specifically Listed Chemicals vs. Chemical Categories Matrix (Lines 7-12)

RowNo.	EPCRA or TURA Specific Chemical	EPCRA or TURA Category	CERCLA Specific Chemical	CERCLA Category	TURA NOL Category	Report as:
7		Yes			Yes	EPCRA or TURA Category
8			Yes		Yes	CERCLA Specific Chemical
9			Yes	Yes		CERCLA Specific Chemical
10				Yes		Do Not Report
11				Yes	Yes	TURA NOL category
12					Yes	TURA NOL category

Row 12 -- Rules for Reporting Specifically Listed Chemicals vs. Chemical Categories

- If a chemical falls under 2 TURA NOL categories, you would report them both, and pay one fee.
- For example, **Octafluoropropane (CAS 76-19-7)**
- This chemical is reportable under both the C1-C4 DEP Category (**1047**) and the Certain PFAS NOL Category (**1300**).



Form S PFAS Guidance

May 2022

Toxics Use Reduction Institute

Heather Tenney



Making Massachusetts a Safer Place to Live and Work

Some Uses and Sources of PFAS



- Oil and water repellency
- Lubricant, emulsifier
- Surfactant, film former
- Non-reactive/low surface tension

Source: Green Science Policy Institute, used with permission. www.greensciencepolicy.org

Making Massachusetts a Safer Place to Live and Work

Important Dates for PFAS Tracking and Reporting

	172 Toxics Release Inventory (TRI)/TURA PFAS	Certain PFAS NOL
Tracking Start Date	January 1, 2021	January 1, 2022
Report to MassDEP	July 1, 2022	July 1, 2023
Reportable	Individually	As a category
Threshold	100 lbs	25,000 lbs manufactured or processed; 10,000 lbs otherwise used.

Individual vs. Category Reporting

- PFAS are reportable individually under TURA when
 - (a) they are individually listed under TRI (Table 1) and
 - (b) if they were already reportable under TURA (Table 2).
- PFAS are reportable as part of a category as part of
 - (a) the C1-C4 NOL category (Table 3), and
 - (b) the new Certain PFAS NOL category (Table 4).

Table 1 TURA/TRI PFAS Substances to Continue Reporting Individually, if more than 100 lbs/year used	
307-35-7	Perfluorooctylsulfonyl fluoride
307-55-1	Perfluorododecanoic acid
335-66-0	Octanoyl fluoride, pentadecafluoro-
335-67-1	Perfluorooctanoic acid (<i>carcinogen de minimis</i> = 0.1%)
335-71-7	1-Heptanesulfonyl fluoride, 1,1,2,2,3,3,4,4,5,5,6,6,7,7,7-pentadecafluoro-
335-76-2	Perfluorodecanoic acid
335-95-5	Sodium perfluorooctanoate
355-46-4	Perfluorohexanesulfonic acid
375-95-1	Perfluorononanoic acid
376-06-7	Perfluorotetradecanoic acid
376-14-7	2-[Ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl methacrylate
376-27-2	Methyl perfluorooctanoate
383-07-3	2-[Butyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl acrylate
423-82-5	2-[Ethyl[(heptadecafluorooctyl)sulfonyl]amino]ethyl acrylate
678-39-7	1-Decanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro-
865-86-1	1-Dodecanol, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafuoro-
1652-63-7	3-[[[Heptadecafluorooctyl)sulfonyl]amino]-N,N,N-trimethyl-1-propanaminium iodide
1691-99-2	N-Ethyl-N-(2-hydroxyethyl)perfluorooctanesulfonamide
1763-23-1	Perfluorooctane sulfonic acid
1996-88-9	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl ester
2043-53-0	Decane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8-heptadecafluoro-10-iodo-
2043-54-1	Dodecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10-heneicosafuoro-12-iodo-
2144-54-9	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-

Certain PFAS NOL Category RY 2022

The Certain PFAS NOL category is defined as those PFAS that contain:

- a perfluoroalkyl moiety with three or more carbons (e.g., $-\text{C}_n\text{F}_{2n}-$, $n \geq 3$; or $\text{CF}_3-\text{C}_n\text{F}_{2n}-$, $n \geq 2$)
- a perfluoroalkylether moiety with two or more carbons (e.g., $-\text{C}_n\text{F}_{2n}\text{OC}_m\text{F}_{2m}-$ or $-\text{C}_n\text{F}_{2n}\text{OC}_m\text{F}_m-$, n and $m \geq 1$) wherein for the example structures shown, the dash (–) is not a bond to a hydrogen and may represent a straight or branched structure,
- and that are not otherwise listed.

Reporting of this Certain PFAS NOL category is at typical TURA thresholds of 25,000 pounds manufactured or processed and 10,000 pounds otherwise used annually.

All chemicals meeting the Certain PFAS NOL definition are reportable as part of the category unless they are individually listed under TURA.

The lists of PFAS with CAS registry numbers in this guidance are provided to assist filers, but are not exhaustive.

Table 2

The following PFAS in Table 2 were already individually reportable under TURA. Continue to report them at typical TURA reporting thresholds.

Table 2. PFAS Substances to continue reporting individually when exceeding normal reporting thresholds	
76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane
76-15-3	Chloropentafluoroethane
116-14-3	Tetrafluoroethylene
124-73-2	1,2-Dibromotetrafluoroethane
354-25-6	1-chloro-1,1,2,2-tetrafluoroethane
422-56-0	3,3-Dichloro-1,1,1,2,2-pentafluoropropane
507-55-1	1,3-Dichloro-1,1,2,2,3-pentafluoropropane
2837-89-0	2-Chloro-1,1,1,2-tetrafluoroethane
65530-59-8	Poly(difluoromethylene), .alpha.-fluoro-.omega.-(2-hydroxyethyl)-, 2-hydroxy-1,2,3-propanetricarboxylate (3:1)
68239-43-0	2-Propenoic acid, 2-methyl-, 2-ethylhexyl ester, polymer with α -fluoro- ω -[2-[(2-methyl-1-oxo-2-propen-1-yl)oxy]ethyl]poly(difluoromethylene), 2-hydroxyethyl 2-methyl-2-propenoate and N-(hydroxymethyl)-2-propenamide
65636-35-3	Ethanaminium, N,N-diethyl-N-methyl-2-[(2-methyl-1-oxo-2-propenyl)oxy]-, methyl sulfate, polymer with 2-ethylhexyl 2-methyl-2-propenoate, α -fluoro- ω -[2-[(2-methyl-1-oxo-2-propenyl)oxy]ethyl]poly(difluoromethylene), 2-hydroxyethyl 2-methyl-2-propenoate and N-(hydroxymethyl)-2-propenamide
68156-01-4	Potassium 2,2,3,3,4,4,5,5,6-nonafluoro-1,6- bis(trifluoromethyl)cyclohexane-1-sulfonate
68156-07-0	Potassium decafluoro(trifluoromethyl)cyclohexanesulfonate

Table 3

Table 3. PFAS Substances reportable under the TURA C1-C4 Halogenated Hydrocarbons category	
76-16-4	Pentafluoroethane
76-17-5	1,2,3-Trichloropentafluoropropane
116-15-4	Hexafluoropropene
335-44-4	2,2,3-Trichloroheptafluorobutane
354-33-6	Pentafluoroethane
354-64-3	pentafluoroiodoethane
359-35-3	1,1,2,2-Tetrafluoroethane
360-89-4	Perfluorobut-2-ene
374-07-2	1,1-Dichlorotetrafluoroethane
382-10-5	1,1-Bis(trifluoromethyl)ethene
421-73-8	1,1,1,2-Tetrafluoro-2-chloropropane
431-31-2	1,1,1,2,3-Pentafluoropropane
431-63-0	1,1,1,2,3,3-Hexafluoropropane
431-89-0	2H-Perfluoropropane
677-69-0	Heptafluoro-2-iodopropane
690-39-1	1,1,1,3,3,3-Hexafluoropropane
754-12-1	2,3,3,3-Tetrafluoropropene
811-97-2	1,1,1,2-Tetrafluoroethane
1320-37-2	Dichlorotetrafluoroethane
2252-83-7	1,2,3,3,3-Pentafluoropropene
18599-20-7	1,4-Dibromo-1,1,2,2-tetrafluorobutane
18599-22-9	2-Vinyl(1-bromoperfluoroethane)
25398-32-7	Ethene, 1,1,2,2-tetrafluoro-, telomer with 1,1,1,2,2-pentafluoro-2-iodoethane
76-19-7	Propane, 1,1,1,2,2,3,3,3-octafluoro-
115-25-3	Cyclobutane, 1,1,2,2,3,3,4,4-octafluoro-
355-25-9	Butane, 1,1,1,2,2,3,3,4,4,4-decafluoro-
423-39-2	Butane, 1,1,1,2,2,3,3,4,4-nonafluoro-4-iodo-
754-34-7	Propane, 1,1,1,2,2,3,3-heptafluoro-3-iodo-

Table 4

Table 4 PFAS Substances Known to be in Commerce that are Reported as part of the Certain PFAS NOL Category	
306-91-2	Phenanthrene, 1,1,2,2,3,3,4,4,4a,4b,5,5,6,6,7,7,8,8,8a,9,9,10,10,10a-tetracosafuorotetradecahydro-
306-94-5	Naphthalene, 1,1,2,2,3,3,4,4,4a,5,5,6,6,7,7,8,8,8a-octadecafluorodecahydro-
307-24-4	Hexanoic acid, 2,2,3,3,4,4,5,5,6,6,6-undecafluoro-
307-30-2	1-Octanol, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-
307-34-6	Octane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-octadecafluoro-
307-60-8	Dodecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12-pentacosafuoro-12-iodo-
307-63-1	Tetradecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14-nonacosafuoro-14-iodo-
307-70-0	1-Undecanol, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11-eicosafuoro-
307-98-2	2-Propenoic acid, 2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluorooctyl ester
311-89-7	1-Butanamine, 1,1,2,2,3,3,4,4,4-nonafluoro-N,N-bis(1,1,2,2,3,3,4,4,4-nonafluorobutyl)-
355-02-2	Cyclohexane, 1,1,2,2,3,3,4,4,5,5,6-undecafluoro-6-(trifluoromethyl)-
355-38-4	Hexanoyl fluoride, 2,2,3,3,4,4,5,5,6,6,6-undecafluoro-
355-42-0	Hexane, 1,1,1,2,2,3,3,4,4,5,5,6,6,6-tetradecafluoro-
355-43-1	Hexane, 1,1,1,2,2,3,3,4,4,5,5,6,6,6-tridecafluoro-6-iodo-
355-50-0	Hexadecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16-tritriacontafuoro-16-iodo-
355-80-6	1-Pentanol, 2,2,3,3,4,4,5,5-octafluoro-
356-24-1	Butanoic acid, 2,2,3,3,4,4,4-heptafluoro-, methyl ester
356-27-4	Butanoic acid, 2,2,3,3,4,4,4-heptafluoro-, ethyl ester
375-00-8	Butanenitrile, 2,2,3,3,4,4,4-heptafluoro-
375-01-9	1-Butanol, 2,2,3,3,4,4,4-heptafluoro-
375-03-1	Propane, 1,1,1,2,2,3,3-heptafluoro-3-methoxy-
375-16-6	Butanoyl chloride, 2,2,3,3,4,4,4-heptafluoro-
375-22-4	Butanoic acid, 2,2,3,3,4,4,4-heptafluoro-

Bottom of Table 4

NA	EFEP ethylene-tetrafluoroethylene-hexafluoropropylene terpolymer
335-93-3	Silver(I) perfluorooctanoate reportable under TRI as of 1/1/21
507-63-1	Perfluorooctyl iodide (reportable under TRI as of 1/1/21)
2395-00-8	Potassium perfluorooctanoate (reportable under TRI as of 1/1/21)
375-73-5	Perfluorobutane sulfonic acid (PFBS) (reportable under TRI as of 1/1/22)
29420-49-3	Potassium perfluorobutane sulfonate (reportable under TRI as of 1/1/22)
65104-45-2	2-Propenoic acid, 2-methyl-, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafluorododecyl ester, polymer with 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluorodecyl 2-methyl-2-propenoate, methyl 2-methyl-2-propenoate, 3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,14-pentacosafuorotetradecyl 2-methyl-2-propenoate and 3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluorooctyl 2-methyl-2-propenoate (reportable under TRI as of 1/1/22)
203743-03-7	2-Propenoic acid, 2-methyl-, hexadecyl ester, polymers with 2-hydroxyethyl methacrylate, .gamma.-.omega.-perfluoro-C10-16-alkyl acrylate and stearyl methacrylate (reportable under TRI as of 1/1/22)
45187-15-3	Perfluorobutanesulfonate (reportable under TRI as of 1/1/22)

The lists in Tables 2-4 were generated from PFAS that are known to be in commerce, primarily from the Toxic Substances Control Act (TSCA). Thus, these lists are NOT exhaustive.

Approximately 1/3 of the PFAS in commerce, as noted by the TSCA Chemical Data Reporting (CDR), are claimed as Confidential Business Information (CBI) and thus will require the supplier to disclose whether the substance meets the definition.

PFAS are often on SDSs without CAS numbers or a full chemical name (i.e., they may be identified as 'fluoropolymer' or some more general language).

For that reason, it is important to contact suppliers to find out whether PFAS are in the products used.

Supplier Notification

TEMPLATE FOR CONTACTING SUPPLIERS REGARDING PFAS REGULATIONS

January 28, 2022

Recipient Name

Supplier Business Name

Address Line 1

Address Line 2

City, State ZIP

Account #: 00000000

RE: PFAS Supplier Notification Requirements under the Massachusetts Toxics Use Reduction Act (TURA) and the Toxics Release Inventory (TRI)

Dear Name,

Company Name (account #: 00000000) requests your cooperation and assistance to comply with new chemical listings under the Massachusetts Toxics Use Reduction Act (TURA) and the federal Emergency Planning and Community Right-to-Know Act (EPCRA).

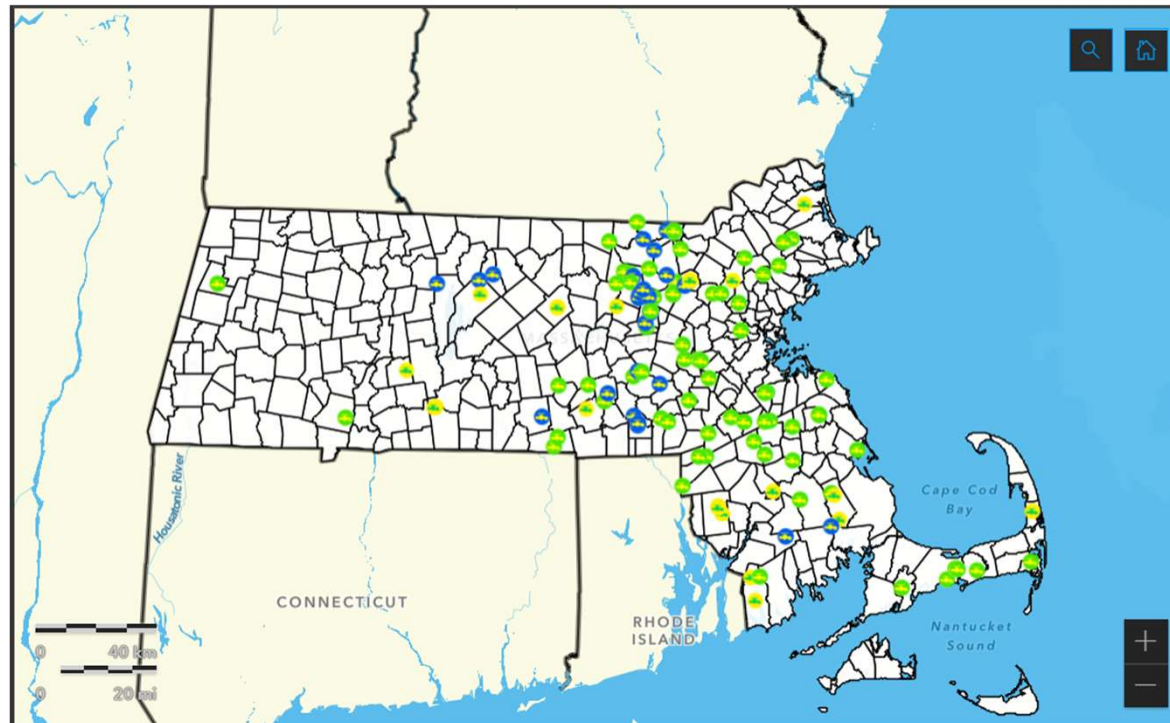
Effective January 1, 2022, Massachusetts TURA covered industries, such as ours, are required to track the use of Certain Per- and Polyfluoroalkyl Substances Not Otherwise Listed (PFAS NOL) on the TURA list of Toxic or Hazardous Substances. PFAS in this category are those that: "contain a perfluoroalkyl moiety with three or more carbons (e.g., $\text{--C}_n\text{F}_{2n+1}$, $n \geq 3$; or $\text{CF}_3\text{--C}_n\text{F}_{2n+1}$, $n \geq 2$) or a perfluoroalkylether moiety

Note that some PFAS are in products at concentrations below the de minimis exemption amount (1% for most PFAS, 0.1% for PFOA as a carcinogen).

For fluorinated substances where a chemical structure is not available it can be assumed to be part of the category until more specific information is available.

Normal article exemptions
apply for PFAS.

Why a preventative approach?



Resources

- [PFAS Tracking and Reporting Updates | Mass.gov](#)
- [Per- and poly-fluoroalkyl substances \(PFAS\) / Chemical Information / Toxic Chemicals / Our Work / TURI - TURI - Toxics Use Reduction Institute](#)
- [Addition of Certain PFAS to the TRI by the National Defense Authorization Act | US EPA](#)
- [Continuing Education Conference Fall 2021 / Recent Training Presentations / Continuing Education / Training / Our Work / TURI - TURI - Toxics Use Reduction Institute](#)
- [TURAPFAS2022ResourceList.pdf \(turi.org\)](#)



Thank you

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Chronic Health Effects

	PFNA	PFOA	PFOS	PFHpA	PFHxA	PFHxS	PFBA	PFBS	Gen X	ADONA	PFPA/ PFPiA
Cancer		Kidney, Testicular							X		
Immunotoxicity	X	Ulcerative colitis	X					X	X		
Thyroid		X			X	X	X	X		X	X
Endocrine (other than thyroid)					X	X	X	X			
Hematological		cholesterol				X	X	X			
Liver/metabolic	X			X	X	X	X	X	X	X	X
Reproductive	X	PIH							X	X	X
Developmental	X			X	X		X	X	X		
Neurodevelopmental						X					
Neurotoxicity	X				X	X		X			
Asthma						X		X			
Other	Mutagenicity				Kidney			Kidney	Kidney		Acute toxicity

Note: The SAB did not conduct a literature review for PFOS and PFOA due to the volume of information available through authoritative bodies and large-scale epidemiological studies.

Persistence, Presence in the Environment, and Bioaccumulation

	PFNA	PFOA	PFOS	PFHpA	PFHxA	PFHxS	PFBA	PFBS	GenX	ADONA	PFPA/ <u>PFPiA</u>
Persistence	X	X	X	X	X	X	X	X	X	X	X
Bioaccumulation	X	X	X	X	X	X	X	X	X		X
Presence in the environment	X	X	X	X	X	X	X	X	X		
Presence in biota, including humans	X	X	X	X	X	X	X	X	X		X